

UNIVERSITI TEKNOLOGI MARA



**A COMPARISON OF THE ABILITY BETWEEN
POSITIVE AND NEGATIVE IMAGES IN
DETERMINING THE CHARACTERISTICS OF
LESION IN MAMMOGRAPHY**

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AUTHOR'S DECLARATION

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ABSTRACTS

Purpose: To determine whether positive or negative image is better in visualization abnormality of benign and malignant lesion.

Methodology: This study is retrospective study to compare the ability between positive and negative image in determining the characteristics of lesion efficiently in mammography. To achieve this objective, several positive images of the lesions were selected and observed. The images then converted into negative image to visualize the ability of the images in defining the shape and the border of lesions. Images were evaluated by senior radiographers and radiologists using Visual Grading Analysis (VGA) based on the European guidelines. Data collected was analyzed using SPSS Version 20.

Results: The descriptive analysis showed that, the highest mean VGA score was obtained by the positive image as compared to the negative image which has low mean VGA score. This explains that the positive image has the better image quality in demonstrating lobulated and spiculated lesion. The p-value (0.001) in paired sample t-test that was done is less than 0.05 which shows there is significant difference between positive and negative images in terms of its image quality.

Conclusion: All of the necessary criteria have been evaluated and it revealed that the visibility of the spiculated and lobulated lesion was clearly observed better in positive images rather than the negative images. The mean scores of the positive image are higher as it fulfilled most of the image criteria suggested by the CEC. The image quality of positive image is indeed the better type of image as compared to the negative image in demonstrating the lesions in terms of its details and characteristics.

key word: positive image, negative image, spiculated lesion, lobulated lesion, image quality, digital mammography

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